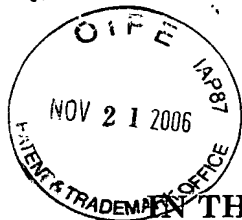


92 DAC



Serial No. 10/631,004
Attorney Docket No. 037068.52641US
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/631,004 Confirmation No.: 9537
First Named Inventor : Thomas HACKL
Filed : July 31, 2003
TC/A.U. : 3683
Examiner : Devon C. Kramer

Docket No. : 037068.52641US
Customer No. : 23911

Title : Device for Controlling Brakes in a Commerical
Vehicle

REQUEST TO WITHDRAW HOLDING ABANDONMENT

Mail Stop Petitions
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby respectfully petitions for the withdrawal of a holding of abandonment in the above-referenced patent application issued October 31, 2006. The expiration of the period for responding to the Decision on Appeal dated August 30, 2006 was October 30, 2006. Accordingly, this Petition is submitted within one year of the date on which the application became abandoned in accordance with 37 C.F.R. § 1.137(b)(4)(i).

On October 30, 2006, the Applicant filed a Request for Continued Examination and Preliminary Amendment in response to the August 30, 2006 Decision on Appeal, with an appropriate fee. A copy of the date-stamped receipt postcard and the as-filed response are attached hereto.

In view of the foregoing, Applicant respectfully requests the holding of abandonment in the above-referenced patent application be withdrawn, and the October 30, 2006 response be forwarded to the Examiner for consideration.

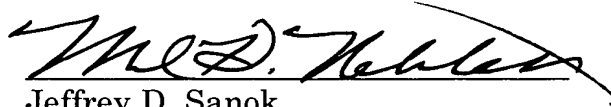
CONCLUSION

If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket # 037068.52641US).

Respectfully submitted,

November 21, 2006



Jeffrey D. Sanok
Registration No. 32,169
Mark H. Neblett
Registration No. 42,028

CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
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JDS:MHN:tas
2887589



Crowell & Moring LLP

Today's Date: October 30, 2006

Attorney Docket: 037068-52641US
First Named Inventor: Thomas HACKL
Serial No.: 10/631,004
Filing Date: July 31, 2003

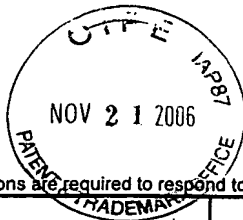
The following has been received in the U.S. Patent & Trademark Office on the date stamped hereon:

- X Fee Transmittal w/Credit Card Payment Form (PTO-2038) for \$790.00
- X Request for Continued Examination Transmittal
- X Preliminary Amendment

JDS:MHN:tas



DUE DATE: October 30, 2006



Request For Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	10/631,004
Filing Date	July 31, 2003
First Named Inventor	Thomas HACKL
Art Unit	3683
Examiner Name	Devon C. Kramer
Attorney Docket Number	037068.52641US

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application. Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 C.F.R. § 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

- a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
- ii ☐ Consider the arguments in the Appeal Brief or Rely Brief previously filed on _____
- iii ☐ Other _____
- b. ☒ Enclosed
- i ☒ Amendment/Reply
- ii ☐ Affidavit(s)/Declaration(s)
- iii ☐ Information Disclosure Statement (IDS)
- iv ☐ Other _____

2. Miscellaneous

- a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) required)
- b. ☐ Other _____

3. Fees

The RCE fee under 37 C.F.R. § 1.17 (e) is required by 37 C.F.R. § 1.114 when RCE is filed.

- a. ☒ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. **05-1323**.
- i ☒ RCE fee required under 37 C.F.R. § 1.17 (e)
- ii ☐ Extension of time fee (37 C.F.R. §§ 1.136 and 1.17)
- iii ☐ Other _____
- b. ☐ Check in the amount of \$ _____ enclosed
- c. ☒ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature		Date	October 30, 2006
Name (Print/Type)	Jeffrey D. Sanok/Mark H. Neblett	Registration No.	32,169/42,028

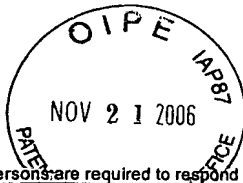
CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature	
Name (Print/Type)	Date
	October 30, 2006

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/17 (01-06)

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818)

FEE TRANSMITTAL**For FY 2006**☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT (\$)** 790.00**Complete if Known**

Application Number	10/631,004
Filing Date	July 31, 2003
First Named Inventor	Thomas HACKL
Examiner Name	Devon C. Kramer
Art Unit	3683
Attorney Docket No.	037068.52641US

METHOD OF PAYMENT (check all that apply)

- ☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify):
- ☒ Deposit Account Deposit Account Number: 05-1323 (Docket No. 037068.52641US) Deposit Account Name: 23911
- For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)
- ☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee
- ☒ Charge any additional fee(s) or underpayments of fee(s) ☒ Credit any overpayments
- under 37 CFR 1.16 and 1.17

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Small Entity	Fee (\$)	Small Entity	Fee (\$)	Small Entity	Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Small Entity	Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180
Total Claims	Extra claims	Fees (\$)
-20 or HP	x	=
HP = highest number of total claims paid for, if greater than 20		
Indep. Claims	Extra claims	Fees (\$)
-3 or HP	x	=
HP = highest number of total claims paid for, if greater than 3		

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50 =	Round up to a whole number x	=	

4. OTHER FEES

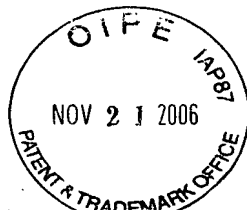
	Fee Paid (\$)
Non-English Specification, \$130 fee (no small entity discount)	
Other Request for Continued Examination Fee	\$790.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent)	32,169/42,028	Telephone	(202) 624-2500
Name (Print/Type)	Jeffrey D. Sanok / Mark H. Neblett	Date	October 30, 2006		

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/631,004 Confirmation No. : 9537
First Named Inventor : Thomas HACKL
Filed : July 31, 2003
TC/A.U. : 3683
Examiner : Devon C. Kramer

Docket No. : 037068.52641US
Customer No. : 23911

Title : Device for Controlling Brakes in a Commerical Vehicle

PRELIMINARY AMENDMENT

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following amendments and remarks are respectfully submitted following receipt of the Decision on Appeal mailed August 30, 2006. The two-month response due date is October 30, 2006.

Amendments to the Claims begins on page 2 of this paper.

Remarks begin on page 5 of this paper.

Amendments to the Claims:

Please amend the claims as follows:

1. (currently amended) A system for controlling brakes of a commercial vehicle, comprising:

at least one of an adaptive distance regulation and driving speed device which, after detection of a hazard, modulates an urgency signal indicative of a degree of urgency of the detected hazard based upon a hazard variable, wherein said urgency signal is variable between a value indicating no urgency and a value indicating a greatest urgency;

an electronically controlled brake system designed to distribute a desired amount of braking force to a friction brake system and an additional active retarding brake; and

wherein the electronically controlled brake system distributes the desired amount of braking force to the friction brake system and the retarding brake based upon the urgency signal.

2. (original) The system according to claim 1, wherein the hazard variable is at least one of a relative speed and distance to a vehicle traveling in front of the commercial vehicle.

3-4. (canceled)

5. (currently amended) The system according to claim [3] 1, wherein the electronically controlled brake system includes a control device such that at high urgency values the desired amount of braking force is distributed to the friction brake system and the retarding brake in order to achieve a fastest possible application of the brakes, while at low urgency values the retarding brake is maximally utilized in order to reduce wear and tear on the friction brake system.

6. (currently amended) The system according to claim [4] 2, wherein the electronically controlled brake system includes a control device such that at high urgency values the desired amount of braking force is distributed to the friction brake system and the retarding brake in order to achieve a fastest possible application of the brakes, while at low urgency values the retarding brake is maximally utilized in order to reduce wear and tear on the friction brake system.

7. (original) The system according to claim 5, wherein a CAN data bus transmits the urgency signal from a further control device in said at least one adaptive distance regulation and driving speed device to the electronically controlled brake system control device.

8. (original) The system according to claim 6, wherein a CAN data bus transmits the urgency signal from a further control device in said at least one adaptive distance regulation and driving speed device to the electronically controlled brake system control device.

9. (currently amended) A method for controlling brakes of a commercial vehicle, the method comprising the acts of:

detecting the presence of a hazard;

modulating an urgency signal indicative of a degree of urgency of the detected hazard based upon a hazard variable via at least one of an adaptive distance regulation and driving speed device, wherein said urgency signal is variable between a value indicating no urgency and a value indicating a greatest urgency;

distributing a desired amount of braking force to a friction brake system and an additional active retarding brake as a function of the urgency signal using an electronically controlled brake system.

10. (canceled)

11. (original) The method according to claim 9, wherein the act of distributing the desired amount of braking force further comprises the act of distributing at high urgency values the desired amount of braking force to the friction brake system and the retarding brake in order to achieve a fastest possible application of the brakes, while at low urgency values the distribution maximally utilizes the retarding brake in order to reduce wear and tear on the friction brake system.

REMARKS

The Applicant respectfully submit the foregoing amendments and following remarks, following receipt of the Decision on Appeal mailed August 30, 2006. As amended, claims 1-2, 5-9 and 11 remain pending in the application.

The Applicant has amended independent claims 1 and 9 to further recite features of the present invention, as well as to incorporate limitations of their respective dependent claims 3-4 and 9, which have been cancelled without prejudice to the subject matter therein.

Specifically, as discussed in previous filings in this case, the present invention is directed to a system and method for vehicles with two brake systems (*i.e.*, a “friction brake” (*e.g.*, a wheel brake) and an “active retarding brake” (*e.g.*, a device which is engaged to provide engine braking, such as a so-called “Jake brake” used to control exhaust valve actuation on a diesel engine), in which the use of the brakes is “blended” to optimize the demands for immediate vehicle braking vs. minimizing brake wear. In an advance over the prior art, rather than maintaining a fixed relationship between the braking systems, the inventive system and method employs at least one of an adaptive distance regulation and driving speed device to detect a hazard, and then, based *on the urgency of the detected hazard*, determines how to apportion the braking demand between the two braking systems. For example, at high urgency values, the desired braking force is distributed to the friction brake and the active retarding brake in order to achieve the fastest possible application of the brakes, while at low urgency values the active retarding brake is maximally utilized in order to

minimize wear and tear on the friction brakes. *See, e.g.*, Specification at ¶ [0017].

Consistent with the above, the Applicant has amended independent claims 1 and 9 to expressly recite: (i) the modulation of an urgency signal (upon which the split of braking between the braking systems is made) occurs “after detection of a hazard”; and (ii) the urgency signal is “indicative of a degree of urgency of the detected hazard based upon a hazard variable” and “is variable between a value indicating no urgency and a value indicating a greatest urgency.”

In contrast to the invention recited in amended claims 1 and 9, the cited references fail to teach or suggest distribution of brake forces between *active* brake systems based on a variable assessment of braking urgency. The primary reference, Seto (U.S. Patent Publication No. 2002/0152015 A1), teaches either (i) maintaining a first vehicle operating mode if no other vehicle is present (*i.e.*, speed control “[in] the absence of the preceding vehicle detection”), or (ii) a second vehicle operating mode (*i.e.*, vehicle-separation control “[in] the presence of the preceding vehicle detection”). Seto at ¶[0031]; Fig. (steps S006). In other words, Seto teaches only a binary system: detecting a hazard, and if a hazard is present, switching from cruise control to distance-management mode.

Seto does not, however, provide any suggestion of the present invention’s novel approach of – *after* detecting the presence of a hazard – of then *assessing how urgent that hazard is*, and appropriately apportioning the amount of braking to be performed by two separate *active* braking systems *based* on the urgency assessment (and doing so in a manner which minimizes brake wear while

simultaneously ensuring sufficient brake force is applied to avoid the hazard).

As described at Seto ¶¶ [0049]-[0054], in the distance-management mode (“hazard present”), either the throttle is open (throttle opening command $\theta_r > 0$) and the wheel brakes are not applied ($T_{br} = 0$, i.e., there’s no brake force to distribute), or the throttle is closed ($\theta_r = \text{zero}$), in which case the engine braking force is *fixed* (at the value corresponding to a closed throttle, see ¶ [0051]) while the wheel brakes are engaged as needed – in other words, there is no suggestion of brake force distribution, let alone distribution or other optimization *based on the relative urgency of the previously detected hazard*.¹ Seto therefore fails to teach or suggest these features of the present invention recited in claims 1 and 9.

CONCLUSION

In view of the foregoing, the Applicant submits that independent claims 1 and 9, and their respective dependent claims 2, 5-8 and 11, are patentable over the Seto and Chakraborty references. Early and favorable consideration, and issuance of Notice of Allowance for claims 1-2, 5-9 and 11 is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and

¹ For its part, the Chakraborty reference (U.S. Patent No. 5,839,534), cited for engine braking as a retarder, contains nothing which would suggest to one skilled in the art the present invention’s active brake system distribution based on the relative urgency of a previously detected hazard.

Ser. No. 10/631,004
Atty. Dkt. No. 037068.52641US
PATENT

please charge any deficiency in fees or credit any overpayments to Deposit

Account No. 05-1323 (Docket #037068.52641US).

October 30, 2006

Respectfully submitted,



Jeffrey D. Sanok
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Registration No. 42,028

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